



C 390DD

Direct Digital Integrated Amplifier

ENGLISH



Owner's Manual

IMPORTANT SAFETY INSTRUCTIONS

SAVE THESE INSTRUCTIONS FOR LATER USE.

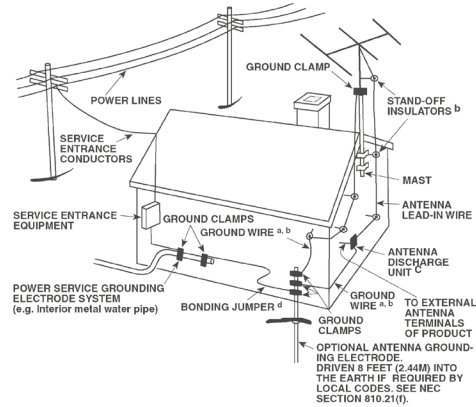
FOLLOW ALL WARNINGS AND INSTRUCTIONS MARKED ON THE AUDIO EQUIPMENT.

- 1 Read instructions** - All the safety and operating instructions should be read before the product is operated.
- 2 Retain instructions** - The safety and operating instructions should be retained for future reference.
- 3 Heed Warnings** - All warnings on the product and in the operating instructions should be adhered to.
- 4 Follow Instructions** - All operating and use instructions should be followed.
- 5 Cleaning** - Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Clean only with a dry cloth.
- 6 Attachments** - Do not use attachments not recommended by the product manufacturer as they may cause hazards.
- 7 Water and Moisture** - Do not use this product near water-for example, near a bath tub, wash bowl, kitchen sink, or laundry tub; in a wet basement; or near a swimming pool; and the like.
- 8 Accessories** - Do not place this product on an unstable cart, stand, tripod, bracket, or table. The product may fall, causing serious injury to a child or adult, and serious damage to the product. Use only with a cart, stand, tripod, bracket, or table recommended by the manufacturer, or sold with the product. Any mounting of the product should follow the manufacturer's instructions, and should use a mounting accessory recommended by the manufacturer.
- 9**  A product and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the product and cart combination to overturn.
- 10 Ventilation** - Slots and openings in the cabinet are provided for ventilation and to ensure reliable operation of the product and to protect it from overheating, and these openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug, or other similar surface. This product should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.
- 11 Power Sources** - This product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your home, consult your product dealer or local power company. The primary method of isolating the amplifier from the mains supply is to disconnect the mains plug. Ensure that the mains plug remains accessible at all times. Unplug the AC power cord from the AC outlet if the unit will not be used for several months or more.
- 12 Grounding or Polarization** - This product may be equipped with a polarized alternating current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.
- 13 Power Cord Protection** - Power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the product.
- 14 Outdoor Antenna Grounding** - If an outside antenna or cable system is connected to the product, be sure the antenna or cable system is grounded so as to provide some protection against voltage surges and built-up static charges. Article 810 of the National Electrical Code, ANSI/NFPA 70, provides information with regard to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.

NOTE TO CATV SYSTEM INSTALLER

This reminder is provided to call the CATV system installer's attention to Section 820-40 of the NEC which provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

- 15 Lightning** - For added protection for this product during a lightning storm, or



when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the product due to lightning and power line surges.

- 16 Power Lines** - An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits as contact with them might be fatal.
- 17 Overloading** - Do not overload wall outlets, extension cords, or integral convenience receptacles as this can result in a risk of fire or electric shock.
- 18 Object and Liquid Entry** - Never push objects of any kind into this product through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind on the product.

WARNING: THE APPARATUS SHOULD NOT BE EXPOSED TO DRIPPING OR SPLASHING, AND OBJECTS FILLED WITH LIQUIDS, SUCH AS VASES, SHOULD NOT BE PLACED ON THE APPARATUS. AS WITH ANY ELECTRONIC PRODUCTS, USE CARE NOT TO SPILL LIQUIDS INTO ANY PART OF THE SYSTEM. LIQUIDS CAN CAUSE A FAILURE AND/OR A FIRE HAZARD.

- 19 Damage Requiring Service** - Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:
 - a) When the power supply cord or plug is damaged.
 - b) If liquid has been spilled, or objects have fallen into the product.
 - c) If the product has been exposed to rain or water.
 - d) If the product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to its normal operation.
 - e) If the product has been dropped or damaged in any way.
 - f) when the product exhibits a distinct change in performance-this indicates a need for service.
- 20 Replacement Parts** - When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards.

- 21 Safety Check** - Upon completion of any service or repairs to this product, ask the service technician to perform safety checks to determine that the product is in proper operating condition.
- 22 Wall or Ceiling Mounting** - The product should be mounted to a wall or ceiling only as recommended by the manufacturer.
- 23 Heat** - The product should be situated away from heat sources such as radiators, heat registers, stoves or other products (including amplifiers) that produce heat.
- 24 Headphones** - Excessive sound pressure from earphones and headphones can cause hearing loss.
- 25 Battery Disposal** - When disposing of used batteries, please comply with governmental regulations or environmental public instruction's rules that apply in your country or area. Batteries (battery pack or batteries installed) must not be exposed to excessive heat such as sunshine, fire or the like.

WARNING

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE.

CAUTION

TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE OF PLUG TO WIDE SLOT, FULLY INSERT.

THE LIGHTNING FLASH WITH ARROWHEAD SYMBOL, WITHIN AN EQUILATERAL TRIANGLE, IS INTENDED TO ALERT THE USER TO THE PRESENCE OF UNINSULATED "DANGEROUS VOLTAGE" WITHIN THE PRODUCT'S ENCLOSURE THAT MAYBE OF SUFFICIENT MAGNITUDE TO CONSTITUTE A RISK OF ELECTRIC SHOCK TO PERSONS.



THE EXCLAMATION POINT WITHIN AN EQUILATERAL TRIANGLE IS INTENDED TO ALERT THE USER TO THE PRESENCE OF IMPORTANT OPERATING AND MAINTENANCE (SERVICING) INSTRUCTIONS IN THE LITERATURE ACCOMPANYING THE APPLIANCE.



CAUTION

Changes or modifications to this equipment not expressly approved by NAD Electronics for compliance could void the user's authority to operate this equipment.

CAUTION REGARDING PLACEMENT

To maintain proper ventilation, be sure to leave a space around the unit (from the largest outer dimensions including projections) that is equal to or greater than shown below.

- Left and Right Panels: 10 cm
- Rear Panel: 10 cm
- Top Panel: 10 cm

NOTES ON ENVIRONMENTAL PROTECTION



At the end of its useful life, this product must not be disposed of with regular household waste but must be returned to a collection point for the recycling of electrical and electronic equipment. The symbol on the product, user's manual and packaging, point this out.

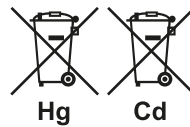


The materials can be reused in accordance with their markings. Through re-use, recycling of raw materials or other forms of recycling of old products, you are making an important contribution to the protection of our environment. Your local administrative office can advise you of the responsible waste disposal point.

INFORMATION ABOUT COLLECTION AND DISPOSAL OF WASTE BATTERIES (DIRECTIVE 2006/66/EC OF THE EUROPEAN PARLIAMENT AND THE COUNCIL OF EUROPEAN UNION) (FOR EUROPEAN CUSTOMERS ONLY)



Batteries bearing any of these symbols indicate that they should be treated as "separate collection" and not as municipal waste. It is encouraged that necessary measures are implemented to maximize the separate collection of waste batteries and to minimize the disposal of batteries as mixed municipal waste.



End-users are exhorted not to dispose waste batteries as unsorted municipal waste. In order to achieve a high level of recycling waste batteries, discard waste batteries separately and properly through an accessible collection point in your vicinity. For more information about collection and recycling of waste batteries, please contact your local municipality, your waste disposal service or the point of sale where you purchased the items.

By ensuring compliance and conformance to proper disposal of waste batteries, potential hazardous effects on human health is prevented and the negative impact of batteries and waste batteries on the environment is minimized, thus contributing to the protection, preservation and quality improvement of the environment.

RECORD YOUR MODEL NUMBER (NOW, WHILE YOU CAN SEE IT)

The model and serial number of your new C 390DD are located on the back of the cabinet. For your future convenience, we suggest that you record these numbers here:

Model no:

Serial no:

INTRODUCTION

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THANK YOU FOR CHOOSING NAD.

The NAD C 390DD is a new concept in amplification exemplified by leading edge audio system architecture. The C 390DD has no analog stages in its signal path, keeping music in the digital domain right up to the speaker output. All preamplifier functions are executed in the digital domain without the phase shift, noise and distortion that plague all analog designs. The C 390DD has small footprint, large power, low energy consumption, future-proof upgradability, software defined operation, backward compatibility, easy integration and a new high definition system architecture. The C 390DD's 35 bit architecture and 108MHz master clock make it as one of the most accurate DAC technologies available. As with all our products, NAD's "Music First" design philosophy guided the C 390DD design that it can confidently promise you both state-of-the-art technology and audiophile-quality music listening for years to come.

We encourage you to take a few minutes now to read right through this manual. Investing a little time here at the outset might save you a good deal of time later, and is by far the best way to ensure that you make the most of your investment in the C 390DD.

One more thing: We urge you to register your C 390DD ownership on the NAD Worldwide Web site:

<http://NADelectronics.com/salon>

For warranty information contact your local distributor.

NAD SHALL NOT BE HELD LIABLE FOR ANY TECHNICAL OR USER INTERFACE DISCREPANCIES IN THIS MANUAL. THE C 390DD OWNER'S MANUAL MAY BE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE. CHECK OUT THE NAD WEBSITE FOR THE LATEST VERSION OF THE C 390DD OWNER'S MANUAL.

WHAT'S IN THE BOX

Packed with your C 390DD you will find

- A detachable mains power cord
- The AVR 4 remote control with 2 AA batteries
- C 390DD Quick Start Guide

SAVE THE PACKAGING

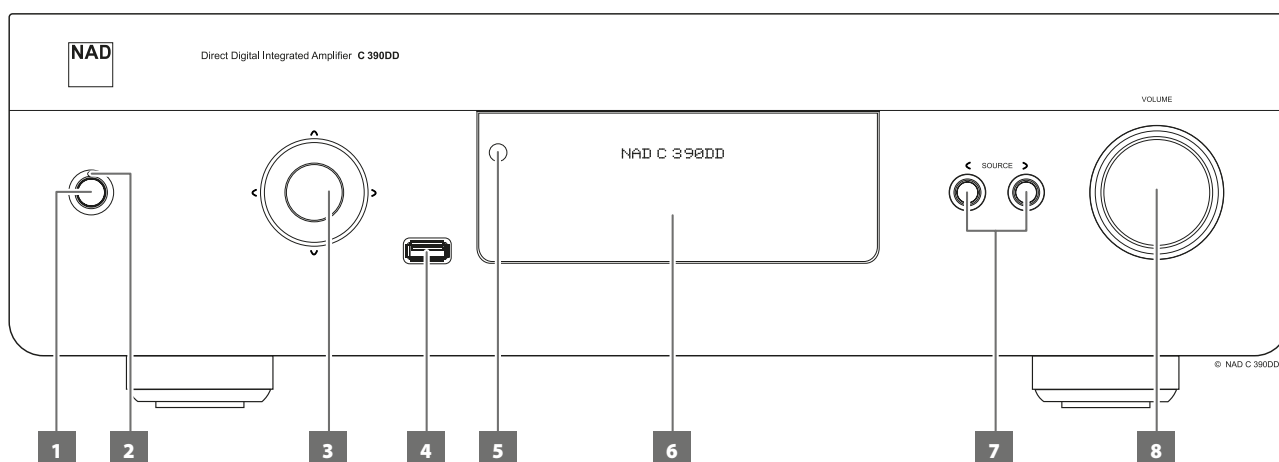
Please save the box and all of the packaging in which your C 390DD arrived. Should you move or otherwise need to transport your C 390DD, this is by far the safest container in which to do so. We've seen too many otherwise perfect components damaged in transit for lack of a proper shipping carton, so please: Save that box!

CHOOSING A LOCATION

Choose a location that is well ventilated (with at least several inches to both sides and behind), and that will provide a clear line of sight, within 25 feet/8 meters, between the C 390DD's front panel and your primary listening/viewing position - this will ensure reliable infrared remote control communications. The C 390DD generates a modest amount of heat, but nothing that should trouble adjacent components. It is especially important that sufficient ventilation be provided.

IDENTIFICATION OF CONTROLS

FRONT PANEL



1 STANDBY BUTTON

- Press this button to switch ON the C 390DD from standby mode. The Standby LED indicator will turn from amber to blue and illuminate the VFD. Pressing the STANDBY button again turns the unit back to standby mode.

NOTE

In order to turn ON the C 390DD from standby mode or back to standby mode, the rear panel POWER switch must be in the ON position.

2 STANDBY LED

- This indicator will light up amber when the C 390DD is at standby mode.
- When the C 390DD is powered up from standby mode, this indicator will illuminate blue.

3 NAVIGATION and ENTER BUTTONS

The navigation [$\swarrow$ / $\searrow$ / $\nwarrow$ / $\nearrow$] and [ENTER] buttons have various applications specific to given modes. The middle round button is designated as [ENTER] button; this is normally pressed to complete a selection, procedure, sequence or other applicable functions.

4 DIGITAL USB FRONT

- Connect a USB mass storage device to this input. Typical USB mass storage devices compatible with C 390DD include portable flash memory devices and external hard drives (FAT32 formatted).
- Refer also to the item about LISTENING TO USB DEVICE at the OTHER FEATURES section of the OPERATION page.

5 VACUUM FLUORESCENT DISPLAY (VFD)

- Display visual information about the current Source. Information supplied is generated by the Source.
- Show menu options and other related functions.

6 REMOTE SENSOR

- Point the AVR 4 remote control at the remote sensor and press the buttons.
- Do not expose the remote sensor of the C 390DD to a strong light source such as direct sunlight or illumination. If you do so, you may not be able to operate the C 390DD with the remote control.

Distance: About 23ft (7m) from the front of the remote sensor.

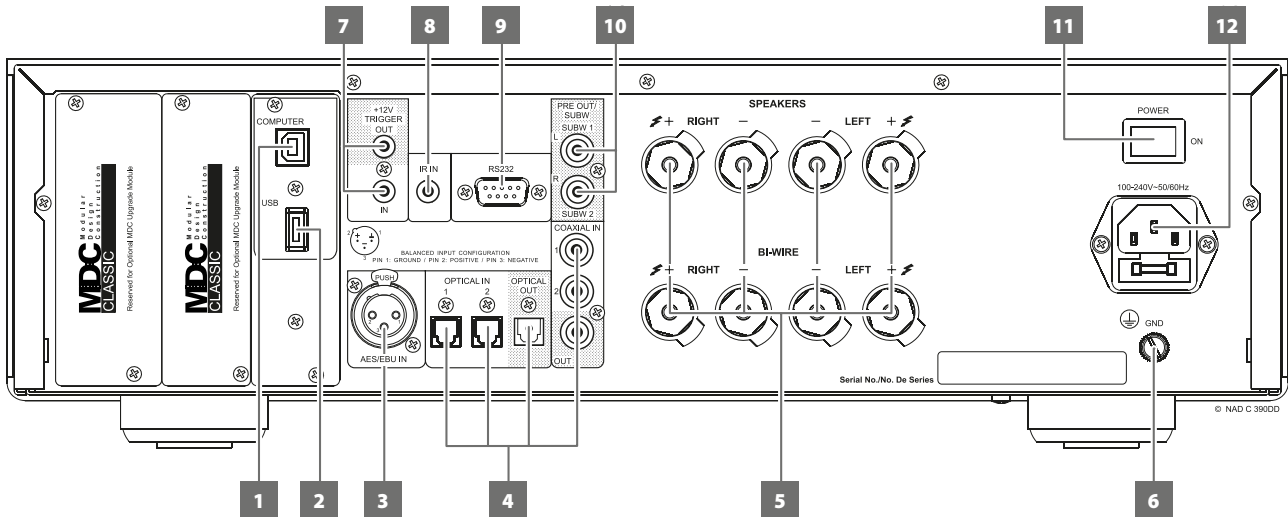
Angle: About 30° in each direction of the front of the remote sensor.

7 < SOURCE >

- Toggle through the input selections - Digital Coaxial 1, Digital Coaxial 2, Digital Optical 1, Digital Optical 2, Digital AES/EBU, Computer, Digital USB Back and Digital USB Front.
- If the optional modules like the DD HDM-1 (Direct Digital HDMI) and the DD AP-1 (Direct Digital Analog/Phono) modules are installed, the source selections will continue on with the corresponding sources of said modules.

8 VOLUME

- The VOLUME control adjusts the overall loudness of the signal being fed to the loudspeakers. Volume control is characterized by perfect signal tracking and channel balance. It gives a highly linear and low noise operation.
- Turn clockwise to increase the volume level; counter clockwise to lower it.



ATTENTION!

Please make sure that the C 390DD is powered off or unplugged from the mains power source before making any connections. It is also advisable to power down or unplug all associated components while making or breaking any signal or AC power connections.

1 COMPUTER

- Using Type A to Type B cable connector (not supplied), interface computer audio to this asynchronous Type B USB input to directly stream 24/96 PCM content from your PC or MAC.
- Refer also to the item about LISTENING TO COMPUTER at the OTHER FEATURES section of the OPERATION page.

2 DIGITAL USB BACK

- Connect a USB mass storage device to this input. Typical USB mass storage devices compatible with C 390DD include portable flash memory devices and external hard drives (FAT32 formatted).

3 DIGITAL AES/EBU

- Digital audio stream from professional audio sources like SACD/CD Players or processors can be connected to this XLR connector.
- For high-end sources with higher sampling rates like 176kHz and 192kHz, it is highly recommended that such sources be interfaced with the AES/EBU IN connector. The AES/EBU IN is well suited to handle such sources with high sampling rate.

4 COAXIAL IN 1-2, OPTICAL IN 1-2

- Connect to the corresponding optical or coaxial digital output of sources such as CD or BD/DVD players, digital cable box, digital tuners and other applicable components.

COAXIAL OUT, OPTICAL OUT

- Connect the optical or coaxial DIGITAL OUT to the corresponding digital audio input of compatible devices such as receivers, computer soundcard or other digital processors.

5 SPEAKERS

Connect the right speaker to the terminals marked "R +" and "R-" ensuring that the "R+" is connected to the "+" terminal on your loudspeaker and the "R-" is connected to the loudspeaker's "-" terminal. Connect the left speaker to the terminals marked "L +" and "L-" ensuring that the "L+" is connected to the "+" terminal on your loudspeaker and the "L-" is connected to the loudspeaker's "-" terminal.

There are two sets of SPEAKER output and these are identical in function (parallel connection) and are provided for ease of Bi-wiring with heavy audiophile cables. Double check your speaker connections before powering up the C 390DD.

BI-WIRING

Most modern high quality loudspeakers offer the option of Bi-wiring. This separates the HF crossover from the LF crossover and offers enhanced performance by preventing LF returned currents from affecting the HF performance. If you decide to bi-wire, be sure to remove the "links" at the loudspeaker that connect the LF and HF sections (these are provided for convenience when single wire connection is used). Your loudspeaker instruction manual should cover this subject as well.

NOTE

Use stranded wire of at least 16 gauge (AWG). Connections to the C 390DD can be made with banana-type plugs. Bare wire or pins can also be used by loosening the terminal's plastic nut, making a clean, neat connection, and re-tightening carefully. To minimize the danger of short circuit, ensure that only 1/2-inch of exposed wire or pin is employed when connecting.

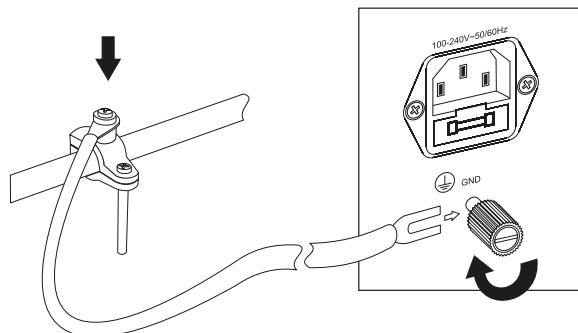
IDENTIFICATION OF CONTROLS

REAR PANEL

6 GROUND TERMINAL

The C 390DD requires a grounded AC receptacle or a separate earth ground. Use this terminal to properly ground your C 390DD. The C 390DD can be connected to ground by connecting a ground lead wire or similar to this ground terminal. After insertion, tighten the terminal to secure the lead.

EXAMPLE ILLUSTRATION OF GROUNDING THE C 390DD VIA THE REAR PANEL GROUND TERMINAL



NOTES

- The above illustration shows the C 390DD being connected to ground via a metal water pipe. There may be other grounding conductor points in your home. Consult with a licensed electrician to properly locate or correctly install a grounding conductor in your home. NAD is not responsible for any malfunction, damage or costs associated with the installation, connection or grounding of your C 390DD.
- The grounding wire is not supplied with your C 390DD.

7 +12V TRIGGER OUT

The +12V TRIGGER OUT is used for controlling external equipment that is equipped with a +12V trigger input.

- Connect this +12V TRIGGER OUT to the other equipment's corresponding +12V DC input jack using a mono cable with 3.5mm male plug.
- This output will be 12V when the C 390DD is ON and 0V when the unit is either OFF or in standby mode.

+12V TRIGGER IN

With this input triggered by a 12V DC supply, the C 390DD can be switched ON remotely from standby mode by compatible devices such as amplifiers, preamplifiers, receivers, etc. If the 12V DC supply is cut off, the C 390DD will return to standby mode.

- Connect this +12V Trigger input to the remote device's corresponding +12V DC output jack using a mono cable with 3.5mm male plug. The controlling device must be equipped with a +12V trigger output to use this feature.

8 IR IN

This input is connected to the output of an IR (infrared) repeater (Xantech or similar) or the IR output of another component to allow control of the C 390DD from a remote location.

9 RS 232

NAD is a certified partner of AMX and Crestron and fully supports these external devices. Check out the NAD website for information about AMX and Crestron compatibility with NAD. See your NAD audio specialist for more information.

- Connect this interface using RS-232 serial cable (not supplied) to any Windows compatible PC to allow remote control of the C 390DD via compatible external controllers.
- Refer to the NAD website for information about RS232 Protocol documents and PC interface program.

10 PRE OUT/SUBW (1,2)

- These output terminals have dual function. They are used either as PRE OUT or SUBWOOFER terminals.
- These terminals are enabled or disabled via the Pre Out/Subwoofer sub-menu of the SETUP menu.
- Refer also to the item about PRE OUT/SUBWOOFER at the USING THE C 390DD section of the OPERATION page.

11 AC MAINS INPUT

The C 390DD comes supplied with a separate detachable mains power cord. Before connecting the plug to the mains power source, ensure that it is firmly connected to the C 390DD's AC Mains input socket first.

- Always disconnect the mains power plug from the mains power source first, before disconnecting the cable from the C 390DD's AC Mains input socket.

12 POWER

- Supply the AC mains power to the C 390DD.
- When the POWER switch is set to ON position, the C 390DD goes to standby mode as shown by the amber status condition of the Standby LED. Press the front panel Standby button or AVR 4 remote control's [ON] button to switch ON the C 390DD from standby mode.
- If you intend not to use the C 390DD for long periods of time (such as when on vacation), switch off the POWER switch.
- With POWER switched off, neither the front panel Standby button nor AVR 4 remote control's [ON] button can activate the C 390DD.

MDC CLASSIC UPGRADE SLOT

The delivery format of digital content is constantly changing in pure digital systems like the C 390DD. Each of these formats typically requires specialized hardware and software, often with licensed IP and content copy protection.

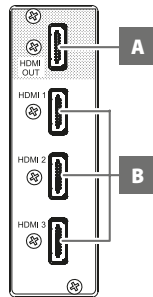
In order to address such continuous technological evolution, NAD's design team placed all digital interface circuitry of the C 390DD on easily upgradable modules. NAD calls this the Modular Design Construction (MDC). The C 390DD includes one MDC module already – the DD USB 1 (Direct Digital USB) which has Type A and Type B USB input terminals.

There are two optional MDC modules – the DD HDM-1 and the DD AP-1 modules. Remove covers to install the optional Modular Design Construction (MDC) modules. Consult with your NAD dealer on how to procure the DD HDM-1 and the DD AP-1 modules and their consequent installations to the C 390DD.

DD HDM-1 (DIRECT DIGITAL HDMI)

The DD HDM-1 offers three HDMI input terminals and one HDMI output with video pass through. With DD HDM-1 installed, the C 390DD can be the heart of a "Video 2.0" system using the mandatory 2 channel linear PCM soundtrack from Blu-ray or DVD to make a compelling high definition theater presentation. DD HDM-1 is fully 3D video compatible but without surround sound decoding or video processing.

- A HDMI OUT:** Connect the HDMI Monitor OUT to a HDTV or projector with HDMI input.
- B HDMI 1 -3:** Connect the sets of HDMI input to the HDMI OUT connectors of source components such as DVD player, BD player or HDTV satellite/cable box.



DD AP-1 (DIRECT DIGITAL ANALOG-PHONO)

DD AP-1 uses high quality Analog-to-Digital conversion to make analog sources compatible with C 390DD's pure digital circuitry. The PHONO circuit has impedance settings for MM and MC with gain automatically set.

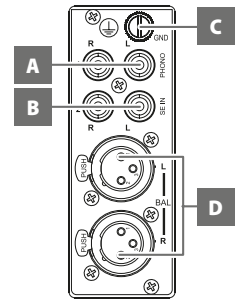
The DD AP-1 consists of the line level input terminals – PHONO, SINGLE-ENDED (ANALOG) and BALANCED.

- A PHONO:** Input for either a Moving Coil or Moving Magnet phono cartridge. Connect the twin RCA lead from your turntable to this input.
- B SE IN (SINGLE-ENDED):** Use a twin RCA-to-RCA lead to connect these sockets to the left and right analog output of a CD player, preamplifier or processor.

C PHONO GROUND CONNECTOR:

Turntables normally includes a single wire earth lead. Use the C 390DD phono ground connector to connect this lead. Unscrew the terminal to expose the hole that will accept the lead. After insertion, tighten the terminal to secure the lead.

- D BALANCED:** Connect XLR audio source to these connectors. Ensure that proper pin configurations are followed – Pin 1: Ground, Pin 2: Positive (signal live) and Pin 3: Negative (signal return).

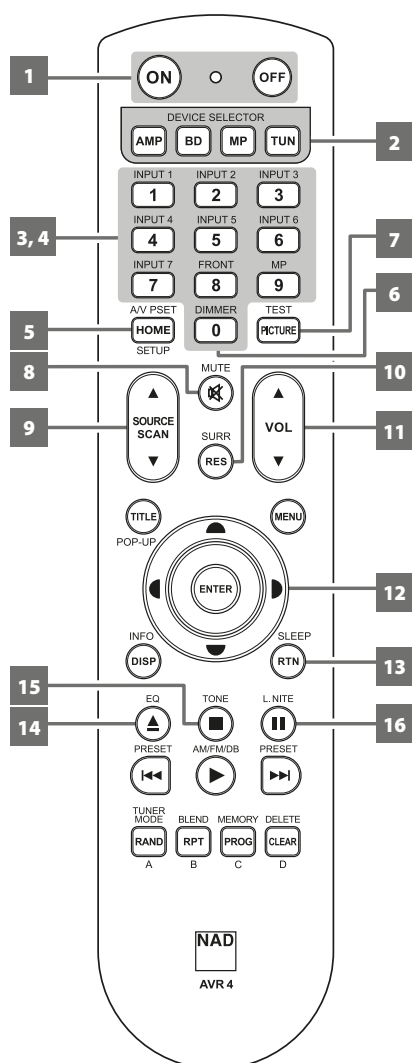


WARNING

Before connecting and disconnecting any HDMI cables, both the C 390DD and the ancillary source must be powered OFF and unplugged from the AC outlet. Failure to observe this practice may cause permanent damage to all equipment connected via HDMI sockets.

IDENTIFICATION OF CONTROLS

AVR 4 REMOTE CONTROL



USING THE AVR 4 REMOTE CONTROL

The AVR 4 remote control handset handles the key functions of the C 390DD. The AVR 4 can also be used to directly command other NAD products that respond to applicable common remote control codes. This includes other NAD Stereo Receiver, Integrated Amplifier and Preamplifier models. It has additional controls to remotely operate NAD CD Players, AM/FM Tuners and dedicated AM/FM/DB Tuners. It will operate up to a distance of 23ft (7m). Alkaline batteries are recommended for maximum operating life. Two AA batteries should be fitted in the battery compartment at the rear of the Remote Control handset. When replacing batteries, check that they have been put in the right way round, as indicated on the base of the battery compartment.

NOTE

The remote control handset supplied with the C 390DD is of a universal NAD type, designed to operate several NAD models. Some buttons are applicable only to specific NAD models. Contact your dealer or NAD audio specialist for assistance.

1 ON, OFF

The AVR 4 remote has a separate ON and OFF button.

ON: Switch C 390DD from Standby mode to operating mode.

OFF: Switch C 390DD to Standby mode.

NOTE

In order to turn ON the C 390DD from standby mode or back to standby mode, the rear panel POWER switch must be in the ON position.

2 DEVICE SELECTOR

A Device Selector button determines only what component the AVR 4 will command; it does not perform any function on the C 390DD.

- Press desired Device Selector button for the applicable buttons to be directed to a "page" of commands relevant to the selected device. Upon selecting a Device, you can now press the corresponding AVR 4 control buttons applicable for the selected Device.

3 INPUT SELECTORS

Refer to the corresponding labels printed in the remote control faceplate and their respective assigned buttons to make use of these functions.

- Set the DEVICE SELECTOR to "AMP" in order to gain access to these buttons.

The following table illustrates the corresponding C390DD source input when one presses the specified AVR 4 button.

AVR 4 BUTTON	C390DD SOURCE INPUT
INPUT 1	Digital Coaxial 1
INPUT 2	Digital Coaxial 2
INPUT 3	Digital Optical 1
INPUT 4	Digital Optical 2
INPUT 5	Digital AES EBU
INPUT 6	Computer
INPUT 7	Digital USB Back
FRONT	Digital USB Front
SOURCE ▲/▼	Toggle through the input sources including those from DD HDM-1 and DD AP-1 modules when installed.

4 NUMERIC KEYS

The numeric keys allow for direct input of tracks for CD players and direct channel/preset access for tuners and receivers.

5 A/V PSET

In combination with the numeric keys, press a Preset number from 1 to 5 as referenced to A/V Presets settings. Note that the Preset settings can be configured via the A/V Presets menu. This is not applicable to C 390DD.

6 DIMMER

- Reduce or restore VFD brightness.
- Depending on the NAD model, the brightness of the front panel display will vary when you toggle this button.
- Use with NAD C 390DD and other compatible NAD Stereo Receiver, Tuner and CD Player models.

7 TEST

Initiate speaker TEST mode while at the Speaker Levels section of the Speaker Setup menu. This is not applicable to C 390DD.

8 MUTE

- Temporarily mutes audio output or restores audio from mute mode.
- MUTE mode is indicated by flashing Standby LED indicator for NAD Integrated Amplifiers or "Mute" shown in the VFD of NAD Receivers. For C 390DD, "MUTE" is shown in the VFD.
- Adjusting the volume level via the AVR 4 or the front panel volume knob will automatically release the mute function.

9 SOURCE ▲/▼

- Toggle through the input selections - Digital Coaxial 1, Digital Coaxial 2, Digital Optical 1, Digital Optical 2, Digital AES/EBU, Computer, Digital USB Back and Digital USB Front. If the optional modules like the DD HDM-1 (Direct Digital HDMI) and the DD AP-1 (Direct Digital Analog/Phono) modules are installed, the source selections will continue on with the corresponding sources of said modules.

10 SURR

Select desired listening or surround mode. This is not applicable to C 390DD.

11 ▲ VOL ▼

- Increase or decrease loudness level. Release the button when desired level is reached.
- The VFD on the front panel will indicate the level set. For NAD Receivers, the VFD will also show "Volume Up" or "Volume Down" or "Volume: -/+ _ _ dB" (-/+ _ _ indicates the numerical dB level) while pressing AVR 4's [VOL ▲/▼] buttons. For C 390DD, "Vol: -/+ _ _ _ dB" is shown in the VFD.

12 ▲/▼/◀/▶, ENTER

Select an item in a menu.

13 SLEEP

Switch off the NAD Receiver or Tuner after a preset number of minutes. This is not applicable to C 390DD.

14 EQ

Bring up the adjustable Equalization parameters Frequency, Level and EQ levels.

15 TONE

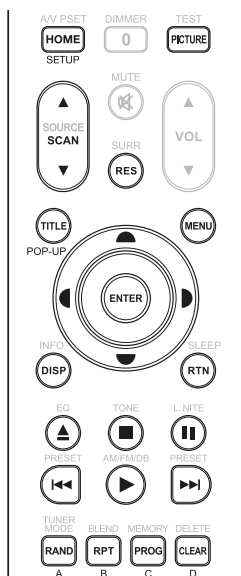
- Adjust Treble or Bass level.
- Toggle [TONE] button to select "Treble" or "Bass" and then use the [▲/▼] to adjust their respective levels.

16 L.NITE

Set Dynamic Range Control (DRC) level. Toggle [L.NITE] to select either DTS or Dolby DRC setting and then use [▲/▼] buttons to set up DRC level. This is not applicable to C 390DD.

IDENTIFICATION OF CONTROLS

AVR 4 REMOTE CONTROL



BD PLAYER CONTROL (use with compatible NAD Blu-ray Disc Player models)

Set the DEVICE SELECTOR to "BD" in order to gain access to these buttons. Some of the control buttons below are applicable only to specific NAD Blu-ray Disc Players; check the owner's manual of your NAD model for control button compatibility. You can also load the applicable NAD code library to this device so that it can be made compatible with your other NAD equipment. Refer to the section below about "LIBRARY" on how to load a NAD code library.

HOME: Display or exit HOME menu.

PICTURE: Display or exit the Picture Mode menu.

SCAN [▲/▼]: Fast reverse/forward search.

RES: Set output resolution of HDMI and Component Video output.

TITLE/POP-UP: Display DVD title menu or BD-ROM pop-up menu, if available.

MENU: Access disc menu, if available.

▲/▼/◀/▶: Select an item in a menu. Select desired track, chapter, file or folder. In some applications, one has to press [ENTER] to complete the selection.

ENTER: Confirm selected option, item or menu.

DISP: Show playback time and other display information.

RTN: Exit from a menu window.

[▲]: Open or close disc tray.

[■]: Stop playback.

[II]: Pause playback temporarily.

[I◀◀]: Go to the beginning of current or previous track, chapter or file.

[▶]: Start playback.

[▶▶I]: Go to next track, chapter or file.

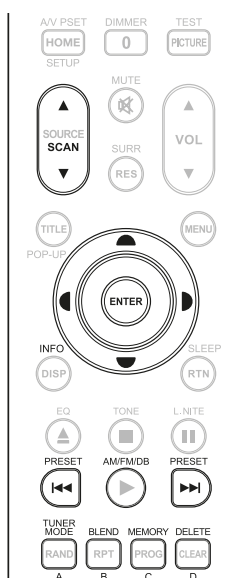
RAND: Play tracks/files in random order.

RPT: Repeat track, chapter, file or whole disc.

PROG: Enter or exit program mode.

CLEAR: Delete programmed track/file.

A,B,C,D: Navigate or select BD-ROM menu, if applicable.



TUNER CONTROL (use with compatible NAD Receiver, AM/FM/DAB Tuner models)

Set the DEVICE SELECTOR to "TUN" in order to gain access to these buttons. Refer to the corresponding labels printed in the remote control faceplate and their respective assigned buttons to make use of these functions. Some of the control buttons below are applicable only to specific NAD Receiver or Tuner models; check the owner's manual of your NAD Receiver or Tuner for control button compatibility. You can also load the applicable NAD code library to this device so that it can be made compatible with your other NAD equipment. Refer to the section below about "LIBRARY" on how to load a NAD code library.

[SCAN ▲/▼] or [◀/▶]: Tune forward or backwards.

[◀/▶]: In combination with [TUNER MODE] or other compatible buttons, select through applicable DAB menu options.

[◀/▶/▲/▼]: In XM mode and in combination with [TUNER MODE] or other compatible buttons, select through applicable XM menu options.

ENTER: Select Preset or Tune mode at AM/FM band. Display signal strength at DAB mode.

INFO: Repeatedly pressing this button will show information as supplied by the current radio station. The applicable display contents include related DAB display information and RDS broadcast data.

PRESET [I◀◀/▶▶I] or [▲/▼]: Step up or down Preset numbers.

AM/FM/DB: Select DAB, XM, FM or AM band, as applicable.

TUNER MODE: In FM mode, toggle between "FM Mute On" and "FM Mute Off". At XM or DAB mode, use the [TUNER MODE] button in combination with [▲/▼/◀/▶] and [ENTER] buttons to activate XM or DAB menu options.

BLEND: Engage or disengage BLEND feature.

MEMORY: Save current station to a Preset number.

DELETE: Delete selected Preset number.

LIBRARY

The AVR 4 can store a different library of default NAD codes for each of its DEVICE SELECTOR "pages." If the original default library does not control your NAD Blu-ray disc player or other components, follow the procedure below to change the library code. Refer as well to the table below for a list of applicable NAD Library Codes with their corresponding NAD models.

LOAD ANOTHER LIBRARY CODE

Example: Load NAD DVD Player T 517 library code to AVR 4's "BD" device.

- 1 Press and hold [BD] in the DEVICE SELECTOR section of AVR 4.
- 2 While holding down the device button [BD], press "2" and "2" using AVR 4's numeric buttons. "22" is the corresponding library code for T 517.
- 3 Press [ENTER] while still holding down the device button [BD]. The BD device selector will flash once to indicate that the library input is successful. Both the device selector button [BD] and [ENTER] can now be released.

RESET THE AVR 4 TO ITS DEFAULT SETTINGS

The AVR 4 can be restored to its factory settings, including default libraries, via the following procedures

- 1 Press and hold [ON] and [DELETE] buttons for about 10 seconds until the AMP device button lights up.
- 2 Within two seconds of the AMP device button lighting up, release both buttons. If the reset mode is successful, the [BD] device button will flash twice.

TABLE OF LIBRARY CODES APPLICABLE TO AVR 4 REMOTE CONTROL

LIBRARY CODE	NAD PRODUCT DESCRIPTION
10	Default library for "AMP" page
11	Zone 2
20	C 515BEE, C 545BEE, C 565BEE
21	T 535, T 585, M55; DVD section of L 54, VISO TWO, VISO FIVE
22	Default library for "BD" page; T 513, T 514, T 515, T 517
23	T 587, T 557, T 577, M56
30	IPD 1
31	IPD 2
40	Default library for "TUN" page; Tuner section of C 725BEE, T 175, T737, T 747, T 755, T 765, T 775, T 785
41	C 422, C 425, C 426
42	C 445

NOTE

The AVR 4 may not necessarily contain all the control buttons applicable for the above-mentioned NAD products. Use the prescribed remote control of the specific NAD product for a full compliment of the applicable remote control buttons.

OPERATION

USING THE C 390DD

SELECTING SOURCES

Toggle AVR 4 [▲ SOURCE ▼] or front panel's [◀ SOURCE ▶] buttons to step through the following Source modes. Stop (release button) when desired Source comes up.

Digital Coaxial 1 → Digital Coaxial 2 → Digital Optical 1 → Digital Optical 2
→ Digital AES EBU → Computer → Digital USB Back → Digital USB Front
→ then back to Digital Coaxial 1

If the optional DD AP-1 (Analog/Phono) and DD HDM-1 (HDMI) upgrade modules are installed, the source sequence would be

Digital Coaxial 1 → Digital Coaxial 2 → Digital Optical 1 → Digital Optical 2
→ Digital AES EBU → Computer → Digital USB Back → Digital USB Front
→ Single-ended → Balanced → Phono → Digital HDMI 1 → Digital
HDMI 2 → Digital HDMI 3 → then back to Digital Coaxial 1

DISPLAY THE MAIN MENU

Press [D], [I] or [ENTER] buttons of the AVR 4 remote control or front panel to display in the VFD the C 390DD's Main Menu.

NAVIGATING THE MENU AND MAKING CHANGES

To navigate through the menu options, undertake the following steps using the AVR 4 or corresponding front panel buttons:

- 1 Press [D] or [ENTER] to select a menu item. Use [▲/▼] to move up or down the Menu selections. Repeatedly press [D] to advance or go further into the sub-menu of desired menu item.
- 2 Use [▲/▼] to set or change the parameter value (setting) of a menu item.
- 3 Press [D] or [ENTER] to save the settings or changes done on the current menu or sub-menu. Pressing [I] will return the user to the previous menu or exit from a particular menu.

MAIN MENU

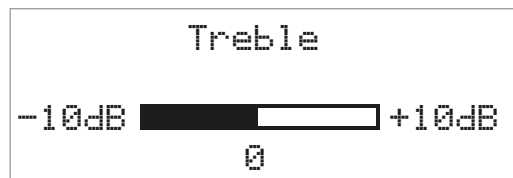
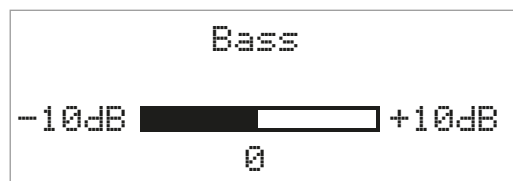
```

#Bass
Treble
Balance
Setup
  
```

The Main Menu contains the menu options for "Bass", "Treble", "Balance" and access to "Setup" menu.

Follow the guidelines about "DISPLAY THE MAIN MENU" and "NAVIGATING THE MENU AND MAKING CHANGES" to navigate through the menu options and their sub-menu selections.

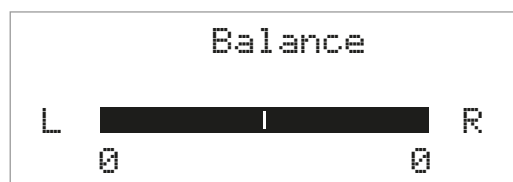
BASS/TREBLE



Bass and Treble controls only affect the low bass and high treble leaving the critical midrange frequencies free of coloration.

- Use [▲/▼] to boost or cut Bass or Treble levels within ± 10 dB range.
- Pressing AVR 4's [TONE] button will also bring up Bass and Treble modes. Toggle [TONE] button to select "Treble" or "Bass" and then use the [▲/▼] to adjust their respective levels. Press TONE again to save the settings and at the same time move on to the next parameter or exit the parameter setting altogether.

BALANCE



The BALANCE control adjusts the relative levels of the left and right speakers.

- Press [▲] to shift the balance to the right or [▼] to shift the balance to the left. Use [▲/▼] also to recover or even out the balance levels.
- "0" level setting for both "L" and "R" provides equal level to the left and right channels.

SETUP MENU

Bass
Treble
Balance
✦Setup

✦Equalization
Polarity
Listening Mode
Speaker Compensation

Pre Out/Subwoofer
Soft Clipping
IR Channel
✦Source Setup

The Setup menu consists of the following selectable and adjustable parameters – Equalization, Polarity, Listening Mode, Speaker Compensation, Pre Out/Subwoofer, Soft Clipping, IR Channel and Source Setup.

EQUALIZATION/ROOM EQ

Equalization
✦Room EQ

The ROOM EQ feature of the C 390DD is a simple and effective way to tame standing waves without altering the upper frequency balance of your loudspeakers.

Imagine a stone dropped into a small pool of water: waves ripple along the surface in concentric circles until they reach the boundary of the pool, at which time they are reflected back toward the point where the stone entered the water. As the reflected wave travels back, it interacts with the primary waves, causing a pattern of interference. Depending on the spacing (frequency) of the waves, some will be nulled and some will be reinforced or doubled in size. In the listening room, a similar pattern of sound wave nulling or cancellation and sound wave reinforcement also takes place.

The proximity of stereo loudspeakers to the listening room boundaries creates "sound reflections" that almost always result in uneven frequency response at the listening position.

At higher frequencies these reflections can be absorbed and scattered randomly by the surface textures of wall coverings, drapes and furniture in the room. But at the lower frequencies, the wave lengths are very large and they interact with the room boundaries to create "standing waves" that can alter the sound of music.

ROOM EQ TEST SEQUENCE

Our simple solution to this "standing waves" is the Room EQ. We have devised a very simple test sequence to make the adjustments by ear (or using an SPL meter). It uses the same concept musicians use to tune a stringed instrument, with a slight twist: instead of matching frequency or pitch, we are matching loudness levels.

Playing back the ROOM EQ TEST SEQUENCE allows this problem to be easily tamed using your ears and the C 390DD Room EQ filters. The following are the adjustable parameters.

✦Freq	Level	EQ
▲	▲	▲
40Hz	0dB	Narrow
▼	▼	▼

Frequency: There are six filters available in the frequency range where standing waves typically are a problematical: 40Hz, 60Hz, 90Hz, 120Hz, 180Hz and 240Hz.

Level: The 6 frequency centers in the low bass region can be cut or slightly boosted to remove the "boom" without reducing the low bass response. Each filter can be boosted by up to 4dB or cut by up to 12dB in 2dB increments. The reason there is a smaller amount of boost than cut is because boosting a null frequency actually increases the null making the problem worse. Fortunately, the ear is less sensitive to sound missing than it is to sound added. The objective is to tame the "boom" in the bass, resulting to a much more incisive and realistic sound.

EQ: The width or "Q" of the filter can also be adjusted to be wide or narrow to address a number of different room configurations.

IMPORTANT NOTE

The "Room EQ Test Sequence" file along with corresponding instructions can be downloaded via the NAD website link – <http://nadelectronics.com/products/hifi-amplifiers/C-390DD-Direct-Digital-Powered-DAC-Amplifier>. Follow the instructions provided with the "Room EQ Test Sequence" package.

POLARITY

Polarity

✦Positive
□Reversed

Allow compensation for recordings that have reversed polarity.

Positive: A positive sine wave at the input remains positive at the output. Polarity is defaulted to "Positive" setting.

Reversed: A positive sine wave at the input is negative (inverted) or reversed at the output.

OPERATION

USING THE C 390DD

LISTENING MODE

```

Listening Mode
+0 Stereo
 0 Mono
 0 Reversed
  
```

The C 390DD offers distinct listening modes, tailored for different types of recording or program material. The following listening modes can be selected.

STEREO

- Select "Stereo" when you wish to listen to a stereo production, such as music CD or FM broadcast.
- Stereo recordings whether in PCM/digital or analog form and whether surround-encoded or not encoded, are reproduced as recorded.
- Multi-channel digital recordings (Dolby Digital and DTS) are reproduced in "Stereo Downmix" mode via the left and right speakers only.

MONO

- Use "Mono" listening mode when the audio source format is mono. The mono information is replicated on both left and right channels.
- Mono listening mode is recommended when watching old movies with mono soundtrack, listening to recorded monaural sound sources such as AM radio broadcasts or with the foreign language soundtracks recorded in the left and right channels of some movies.
- Mono is also very helpful when setting up a stereo system to check that both speakers are connected with correct polarity. Correctly connected speakers will have a solid center image and strong bass response. If one speaker has the input connections (+ and -) reversed, the image will be indistinct and the bass will be reduced and uneven sounding.

REVERSED

- Sends the right channel to the left speaker and the left channel to the right speaker. This can easily correct a reversed input connection or incorrectly recorded music source.

SPEAKER COMPENSATION

```

Speaker Compensation
 02 ohms
+04 ohms
 05 ohms
  
```

```

Speaker Compensation
+06 ohms
 07 ohms
 08 ohms
  
```

```

Speaker Compensation
+0 >8 ohms
  
```

Digital impedance compensation filter allows fine tuning of the top octave to match the speaker impedance. This will result in perfectly flat frequency response at 20 kHz. The effect of this filter may not be audible* but it is measurable, and it compensates for the small effect of the digital reconstruction filter that eliminates the 844 kHz sampling frequency of the amplifier.

*The exception may be some electrostatic speakers that have very low impedance at high frequency. The lower the HF impedance, the greater the deviation from flat response.

PRE OUT/SUBWOOFER

```

+Pre Out
  Subwoofer
  
```

```

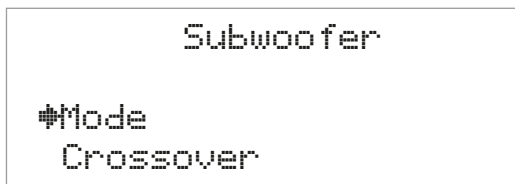
Pre Out
+0 Enable
 0 Disable
  
```

```

Subwoofer
 0 Enable
+0 Disable
  
```

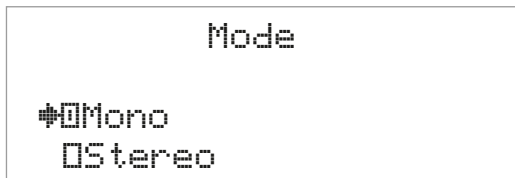
Set the assignment of the rear panel output port PRE OUT/SUBW to either PRE OUT or SUBWOOFER. If PRE OUT is selected and enabled, SUBWOOFER is automatically disabled and vice-versa.

There are two options when Subwoofer is enabled - Mode and Crossover.



MODE

Set the subwoofer mode to either mono or stereo setting.



MONO

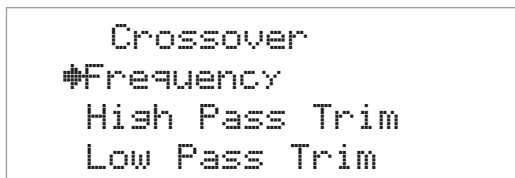
Select this setting when using one subwoofer. At mono mode, the left and right channels are summed in the low pass subwoofer output to drive a single subwoofer.

STEREO

Select this setting when using two subwoofers, one for the left channel and one for the right channel.

CROSSOVER

Crossover allows easy bi-amplification or subwoofer integration by adding the required filters to redirect bass frequencies to the subwoofer.



Frequencies from 40Hz to 200Hz can be selected, with the high pass signal sent to the C 390DD amplifier section and the low pass signal sent to the Subwoofer Out.

CROSSOVER FREQUENCY (40Hz, 50Hz, 60Hz ... 180Hz, 190Hz, 200Hz, Full)

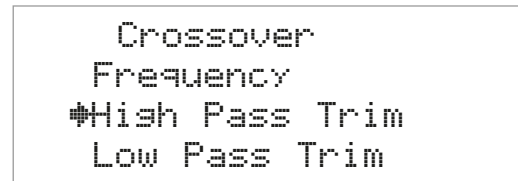
Frequencies from the selected frequency and below will be directed to subwoofer output.

NOTE

Since the low pass filter is already implemented in the C 390DD, the subwoofer should be set to the highest frequency crossover setting available or bypassed if it also includes a crossover function.

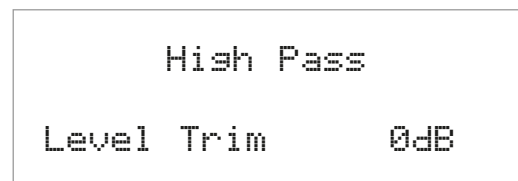
LEVEL TRIM

Level trim allows exact volume matching of the subwoofer level to the main speaker level.



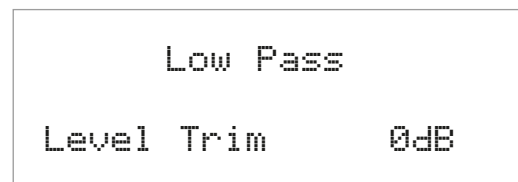
High Pass/Level Trim

Attenuate amplitude level of high pass filter up to -12dB (range: 0dB to -12dB).

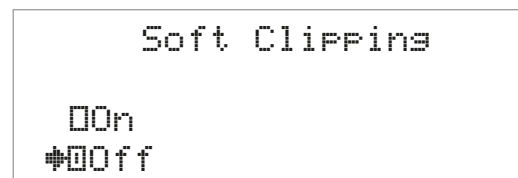


Low Pass/Level Trim

Attenuate amplitude level of low pass filter up to -12dB (range: 0dB to -12dB).



DIGITAL SOFT CLIPPING



Enables NAD's proprietary Soft Clipping circuitry on all channels. Soft Clipping allows a graceful overload without the usual generation of high order harmonic distortion that normally occurs as the sine wave gets squared off. Now digitally controlled, it can be carefully modeled for ideal results.

At "On" setting, Digital Soft Clipping gently limits the output of the C 390DD to minimize audible distortion should the amplifier be overdriven. Soft Clipping may simply be left "On" at all times to reduce the likelihood of audible distortion from excessive volume settings. Set to "Off" for critical listening and to preserve optimum dynamics.

OPERATION

USING THE C 390DD

IR CHANNEL

```

IR Channel
#CH0
CH1
CH2
  
```

The C 390DD has the capability to operate over four IR channel settings. This is practically useful if you have several NAD products that can be operated by similar remote control commands. With varying IR Channel settings, different NAD products can be controlled independently in the same zone by setting each one to a different IR channel.

IR CHANNEL ASSIGNMENT

The C 390DD and the AVR 4 remote control must be set to the same channel.

To change the IR Channel on the C 390DD

- While at "IR Channel" menu, use the [▲/▼] to select through CH 0 to CH 3. Press [D] to select preferred IR Channel setting. C 390DD IR Channel is defaulted to CH0.

To change the IR Channel on the AVR 4 remote control

- Include a channel number before the library code. For AVR 4, library code "10" is the default library table for "AMP" device. To select this "AMP" library table for IR Channel 0 (CH0), retain the library code "10" (or "010").
- If you want to load the "AMP" library table on "IR Channel 1" (CH1) prefix the library code with "1" to indicate association with "IR Channel 1" (CH1). Load then the "AMP" library table using the code "110". Repeat the same for MP (130) and TUNER (140).

SAMPLE SETUP OF TWO NAD PRODUCTS ON THE SAME ZONE

NAD C 390DD and NAD C 326BEE are both defaulted to IR Channel 0. If [OFF] button is pressed on the AVR 4 remote control (or SR 8 remote control for the C 326BEE), both products will go to standby mode. Press [ON] and both products will power up from standby mode.

To prevent both products from simultaneously going in and out of standby mode along with other common commands, set each one to a different IR channel. In this setup, we will keep C 326BEE and SR 8 remote control defaulted to "IR Channel 0" (CH0). As for C 390DD, we will assign it to "IR Channel 1" (CH1); the same applies to AVR 4.

Set C 390DD and AVR 4 to "CH1" via the following procedure.

C 390DD

- While at "IR Channel" menu, use the [▲/▼] to go to "CH1" setting. Press [D] or [ENTER] to select "CH1". Press [C] to exit IR Channel selection.

AVR 4

- Press and hold [AMP] in the DEVICE SELECTOR section of the AVR 4.
- While holding down the device button [AMP], press "1", "1" and "0" using AVR 4's numeric buttons.
- Press [ENTER] while still holding down the device button [AMP]. The AMP device selector will flash once to indicate that the library input is successful.

With both C 390DD and AVR 4 set to "CH1", the C 326BEE can now be remotely controlled independent of the C 390DD.

NOTE

Performing a Factory Reset for C 390DD or AVR 4 will result to a return to the factory default "IR Channel 0" setting.

SOURCE SETUP

```

Source Setup
#Digital Coaxial 1
Digital Coaxial 2
Digital Optical 1
  
```

Source Setup makes it possible to select a Source and enable or disable it as desired. The optional NAD DD AP-1 (Direct Digital Analog Phono) module must be installed for "Single-ended" and "Balanced" sources to be functional. The same applies for "Digital HDMI 1", "Digital HDMI 2" and "Digital HDMI 3" - the optional NAD DD HDM-1 (HDMI) module must also be installed. If the applicable module is not installed, the corresponding sources will not be available from the Source Setup menu selection.

SINGLE-ENDED/BALANCED

Single-ended

```

#Enable
Disable
  
```

Balanced

```

#Enable
Disable
  
```

There are two options when Single-ended or Balanced input is enabled - Level Trim and Sample Rate.

NOTE

The optional NAD DD AP-1 (Direct Digital Analog Phono) module must be installed for "Single-ended" and "Balanced" sources to be functional. Otherwise, aforementioned sources will not be available from the Source Setup menu selection.

LEVEL TRIM

Adjust the input signal level from -9dB to 0dB or Fixed.

Single-ended

Level Trim

Sample Rate

Single-ended

Level Trim

0dB

Balanced

Level Trim

Sample Rate

Balanced

Level Trim

0dB

-9dB to 0dB: Increase or decrease the input signal level from -9dB to 0dB. This attenuates the signal before the Analog-to-Digital (A/D) Converter. If the analog input signal sounds "congested" or distorted, the input should be attenuated.

Fixed: This setting should be selected when the C 390DD is connected to the output of a preamplifier and is used primarily as a power amplifier. Output level is fixed and the C 390DD's Volume Control is bypassed. This feature is sometimes referred to as "Cinema Bypass" because it allows the C 390DD to be used for the front channels of a surround sound system by relegating the volume control function to the surround processor.

IMPORTANT NOTICE

If LEVEL TRIM will be set to FIXED level, adjust first to MINIMUM level the volume control of the amplifier where the C390DD is connected. This will prevent the amplifier from starting at a high volume level when the amplifier is set to the Source input where the C390DD is connected.

SAMPLE RATE (48 KHZ, 96 KHZ, 192 KHZ)

Select the user's preference for sample rate of the A/D Converter. Higher sampling rates allow for anti-aliasing filters to take effect further outside the audible frequency range and are generally considered to sound better, especially in the high frequencies.

Single-ended

Level Trim

Sample Rate

Single-ended

Sample rate

48Hz

Balanced

Level Trim

Sample Rate

Balanced

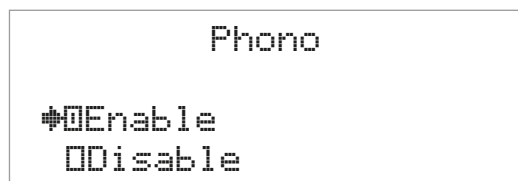
Sample rate

48Hz

OPERATION

USING THE C 390DD

PHONO



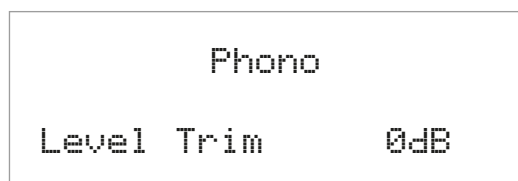
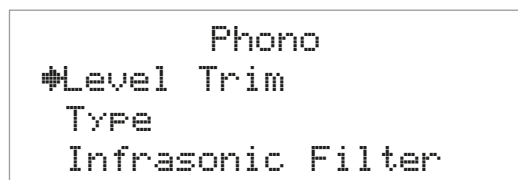
There are three options when Phono input is enabled – Level trim, Type and Infrasonic Filter.

NOTE

The optional NAD DD AP-1 (Direct Digital Analog Phono) module must be installed for “Phono” source to be functional. Otherwise, “Phono” source will not be available from the Source Setup menu selection.

LEVEL TRIM

Adjust the input signal level from -20dB to 0dB to accommodate a wide range of cartridge brands and models. Adjust the loudness of the Phono input to the same level as the other inputs.

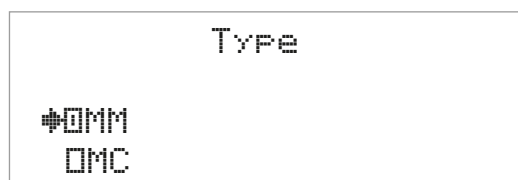


IMPORTANT NOTICE

If LEVEL TRIM will be set to FIXED level, adjust first to MINIMUM level the volume control of the amplifier where the C390DD is connected. This will prevent the amplifier from starting at a high volume level when the amplifier is set to the Source input where the C390DD is connected.

TYPE

Select MM (Moving Magnet) or MC (Moving Coil) depending upon the Phono cartridge type being used. This feature matches the impedance of the Phono input to the cartridge type.

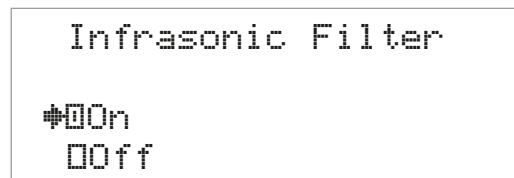


MC: Select for Moving Coil Phono cartridge.

MM: Select for Moving Magnet Phono cartridge.

INFRASONIC FILTER

The output from a record player contains strong but inaudible signals at infrasonic frequencies (below 10Hz) caused by disc warps, stylus/tone arm resonance and vibrations reaching the turntable. If these non-musical signals are amplified at full strength, they may waste amplifier power and produce excessive woofer cone motion, muddying the sound. The infrasonic filter attenuates this unwanted contamination.



On: Select if your loudspeaker is of the type with “vented” cabinets (i.e. bass reflex, ported and auxiliary bass radiator designs). These types are especially susceptible to being overdriven by infrasonic signals.

Off: Select to bypass infrasonic filter.

USB MODE

The C 390DD is equipped with three USB input terminals – USB Front, USB Back and Computer. Using either “USB Front” or “USB Back”, the C 390DD can play back MP3/WMA/FLAC files stored in external USB (Universal Serial Bus) mass storage devices. Use “Computer” to interface computer audio and directly stream 24/96 PCM content from your PC or MAC.

DIGITAL USB FRONT/DIGITAL USB BACK (USB TYPE A)

- Supports playback of MP3, WMA and FLAC files
MP3/WMA: 48 kHz
FLAC: 24 bit/48 kHz
- FAT12/16 root directory up to 256 files (short names)
- FAT12/16/32 up to 65535 files (short names) per directory
- FAT file system limited to 2TB
- File and directory names limited to 64 characters
- Up to 16 maximum level of directories
- Supports USB version 1.1

COMPUTER (USB TYPE B)

- Supports 24 bit/96 kHz PCM content from PC or MAC

NOTE

Typical USB mass storage devices compatible with C 390DD include portable flash memory devices and external hard drives (FAT32 formatted).

IMPORTANT NOTE ABOUT CONTROL BUTTONS

The control buttons mentioned in this manual may refer to either front panel or remote control buttons. Check out the buttons shown with respect to the actual front panel or remote control. There are front panel and remote control buttons that may not exactly look alike but have the same function – example: front panel's [↖/↗/↙/↘] and remote control's [▲/▼/◀/▶]; front panel's [◀ SOURCE ▶] and remote control's [SOURCE ▲/▼].

LISTENING TO USB DEVICE

- 1 Toggle [◀ SOURCE ▶] button to select “USB Front” or “USB Back” source mode. If no USB mass storage device is connected to USB Front or USB Back input, “Please Insert Device” will be displayed in the VFD. If there are no applicable MP3/WMA/FLAC files available in the USB mass storage device, the VFD will show “No files found”.
- 2 Plug-in the USB mass storage device to the USB input – MP3, WMA or FLAC files or folders will be displayed in the VFD.
- 3 Use [↖/↗/↙/↘] to select through the files or folder. Press [▶], [⏸] or [ENTER] to start playback of particular file.
- 4 Toggle AVR 4's [DISP] button to show information about the current file.

Ensure that AVR 4's Device Selector is set to “MP” when using the following USB playback buttons - [⏸], [◀▶], [▶], [RAND], [RPT], [DISP]. [SCAN ▲/▼] and [■] buttons are not applicable functions for USB playback.

IMPORTANT NOTICE

Do not disconnect the USB mass storage device during playback as it may damage the C 390DD.

LISTENING TO A COMPUTER

Use Type A to Type B cable connector to directly stream 24/96 PCM content from your PC or MAC to the C 390DD. Ensure that the Sound or Audio device setting of your computer is set to “NAD USB Audio”.

MINIMUM PC SYSTEM REQUIREMENT

Microsoft Windows XP Service Pack 2 or higher, Microsoft Windows 7

FOR MAC USERS

Minimum Mac OS X Snow Leopard (version 10.6) and later versions.

RENAMING A SOURCE INPUT

A particular source input can be renamed according to your preference. You can use up to 20 characters in renaming a source input. Below is the procedure on how to rename a source input.

Example: Rename “Digital Coaxial 1” to “BD Player”.

- 1 Toggle [◀ SOURCE ▶] button until “Digital Coaxial 1”.
- 2 Then, press and hold front panel's [◀ SOURCE] button until “Digital Coaxial 1” is shown in the lower section of the VFD and with “D” flashing. Note that “Digital Coaxial 1” is also shown at upper section of the VFD.
- 3 Within 5 seconds, toggle the [↖/↗] buttons to select the first character (“B” from the alphabetical list). The ranges of characters available are A-Z, a-z, _ (space) and 0-9.
- 4 Press [▶] to select the character and at the same time move on to the next character. Repeat steps 3 and 4 for each character in sequence.
- 5 Complete the renaming process by pressing the [ENTER] button again to save the new source input name.

NOTE

The renaming process will be automatically terminated if no button is pressed within 5 seconds. Any renamed characters at the time of termination will not be saved.

REFERENCE

TROUBLESHOOTING

CONDITION	POSSIBLE CAUSES	POSSIBLE SOLUTIONS
No "Computer" audio.	• Sound or Audio device setting of your PC or Mac is not set to "NAD USB Audio".	• Set your PC or Mac Audio or Sound device setting to "NAD USB Audio".
	• No music files being played back from your PC or Mac.	• Playback a music file from your computer.
Cannot power ON the C 390DD.	• Rear panel POWER switched off.	• Set to "ON" the rear panel POWER switch and then press front panel Standby button.
VFD is dim.	• Low brightness level of VFD is selected.	• Toggle [DIMMER] button until desired brightness level.
VFD show "No files found" even if a USB device with files is connected.	• There are no applicable MP3/WMA/FLAC files available in the USB device.	• Load MP3/WMA/FLAC files in the USB device for playback.
C 390DD does not respond to remote control commands.	• Batteries are flat or incorrectly inserted.	• Check batteries.
	• Infrared receiver (IR) window of C 390DD or IR transmitter of the remote control is obstructed.	• Check IR windows and ensure clear line-of-sight from remote to C 390DD.
	• C 390DD front panel is in very bright sunlight or ambient light.	• Reduce sunlight/room lighting.
	• IR Channel setting of C 390DD is different with the IR Channel setting of the remote control.	• Ensure that both C 390DD and the remote control are set to the IR Channel setting.

RESTORING C 390DD TO ITS FACTORY DEFAULT SETTINGS

Press and hold front panel together front panel buttons [◀ SOURCE] and [SOURCE ▶] until the VFD shows "Factory Reset". The C 390DD is now restored to its factory default settings.

OVERALL SPECIFICATIONS

Continuous output power (ref. 20Hz – 20kHz, rated THD) - 8 ohms	≥150W
Continuous output power (ref. 20Hz – 20kHz, rated THD) - 4 ohms	≥150W
Rated distortion (THD, with AES17 and AP passive 20kHz LP filters)	<0.005% (ref. 20Hz – 20kHz, 500mW – rated power)
Clipping power	>165W (ref. 1kHz 8 ohms 0.1% THD)
IHF Dynamic power - 8 ohms	≥160W
IHF Dynamic power - 4 ohms	≥350W
IHF Dynamic power - 2 ohms	≥350W
Maximum output current	>18A
Signal-to-noise ratio	> 95dB (ref. 1W, A-weighted)
	>124dB (ref. 150W, A-weighted)
Damping factor	>800 (ref. 20Hz- 200Hz)

USB INPUT

Digital USB Front/Digital USB Back (USB Type A)	MP3/WMA: 48 kHz FLAC: 24 bit/48 kHz
Computer (USB Type B)	24 bit/96 kHz PCM content from PC or MAC

DIGITAL INPUT (COAXIAL, OPTICAL, AES/EBU)

Input impedance - Coaxial	75 ohms
Input impedance - AES/EBU	110 ohms
Sample rate	32kHz to 192kHz
Frequency response	±0.5dB (ref. 20Hz – 96kHz @192kHz)
Channel separation	>75dB (ref. 1/3 rated power, 10kHz 4 ohms)

POWER CONSUMPTION

Normal operation	500W (ref. 100 - 240V AC 50/60 Hz)
Standby power	<0.5W
Idle power	100W

PHYSICAL SPECIFICATIONS

Unit Dimensions (W x H x D)	435 x 131 x 388 mm (Gross)
	17 ¹ / ₈ x 5 ³ / ₁₆ x 15 ⁵ / ₁₆ inches
Net Weight	7.7 kg (17.0 lbs)
Shipping Weight	9.8kg (21.6 lbs)

* - Gross dimensions include feet, volume knob and speaker terminals.

Specifications are subject to change without notice. For updated documentation and features, please log onto www.NADelectronics.com for the latest information about C 390DD.



www.NADelectronics.com

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